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**TRANSMITTAL  
FORM**

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<b>TRANSMITTAL FORM</b>  (to be used for all correspondence after initial filing)	Application Number	10/662,547
	Filing Date	September 15, 2003
	First Named Inventor	Simon Anne De Molina
	Art Unit	3683
	Examiner Name	Chris Schwartz
Total Number of Pages in This Submission	Attorney Docket Number	1316N-001670

**ENCLOSURES (check all that apply)**

<input checked="" type="checkbox"/> Fee Transmittal Form  <input checked="" type="checkbox"/> Fee Attached  <input type="checkbox"/> Amendment / Reply  <input type="checkbox"/> After Final  <input type="checkbox"/> Affidavits/declaration(s)  <input type="checkbox"/> Extension of Time Request  <input type="checkbox"/> Express Abandonment Request  <input type="checkbox"/> Information Disclosure Statement  <input type="checkbox"/> Certified Copy of Priority Document(s)  <input type="checkbox"/> Response to Missing Parts/ Incomplete Application  <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s)  <input type="checkbox"/> Licensing-related Papers  <input type="checkbox"/> Petition  <input type="checkbox"/> Petition to Convert to a Provisional Application  <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address  <input type="checkbox"/> Terminal Disclaimer  <input type="checkbox"/> Request for Refund  <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Technology Center (TC)  <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences  <input checked="" type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)  <input type="checkbox"/> Proprietary Information  <input type="checkbox"/> Status Letter  <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):  <b>Return Receipt Postcard</b>		
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**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual name	Harness, Dickey & Pierce, P.L.C.	Attorney Name Michael J. Schmidt	Reg. No. 34,007
Signature			
Date	January 9, 2006		

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## FEE TRANSMITTAL for FY 2005

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 500

### Complete if Known

Application Number	10/662,547
Filing Date	September 15, 2003
First Named Inventor	Simon Anne De Molina
Examiner Name	Chris Schwartz
Art Unit	3683
Attorney Docket No.	1316N-001670

### METHOD OF PAYMENT (check all that apply)

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#### 1. BASIC FILING, SEARCH, AND EXAMINATION FEES

Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	Fee (\$)	Small Entity Fee (\$)	
Utility	300	150	500	250	200	100	_____
Design	200	100	100	50	130	65	_____
Plant	200	100	300	150	160	80	_____
Reissue	300	150	500	250	600	300	_____
Provisional	200	100	0	0	0	0	_____

#### 2. EXCESS CLAIM FEES

##### Fee Description

		Small Entity	
		Fee (\$)	Fee (\$)
Each claim over 20 (including Reissues)		50	25
Each independent claim over 3 (including Reissues)		200	100
Multiple dependent claims		360	180
Total Claims		Multiple Dependent Claims	
		Fee (\$)	Fee Paid (\$)
_____ -20 or HP=	0 x _____ =	0	0

HP = highest number of total claims paid for, if greater than 20.

Indep. Claims	Extra Claims	Fee (\$)	Fee Paid (\$)
_____ - 3 or HP=	0 x _____ =	0	0

HP = highest number of independent claims paid for, if greater than 3.

#### 3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
_____	= 0	/ 50 = 0 (round up to a whole number) x	= 0	0

#### 4. OTHER FEE(S)

Non-English Specification, \$130 fee (no small entity discount)

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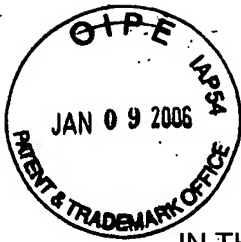
Fees Paid (\$)  
500

### SUBMITTED BY

Signature		Registration No. (Attorney/Agent)	34,007	Telephone	(248) 641-1600
Name (Print/Type)	Michael J. Schmidt	Date	January 9, 2006		

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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Group Art Unit:	3683	)	
Examiner:	Chris Schwartz	)	
Appellant:	Simon Anne De Molina	)	<b>APPEAL BRIEF</b>
Serial No.:	10/662,547	)	<b>Appeal No.</b>
Filed:	September 15, 2003	)	
For:	STROKE DEPENDENT DAMPING	)	
Attorney Docket:	1316N-001670	)	

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Michael J. Schmidt

For Appellant

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**APPELLANT'S APPEAL BRIEF**



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Dear Sir:

This is an Appeal from the July 6, 2005 Final Rejection of Claims 7-15 and 18 of the above referenced application. None of the claims have been allowed. Claims 1-6, 16 and 17 have been cancelled in an amendment filed June 2, 2004.

Claims 7-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over DeMolina, et al. in view of Lee or Dressell, Jr., et al. '415.

Claims 12-15 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over DeMolina in view of Dressell, et al. '415 or Schupner '122.



**REAL PARTY OF INTEREST**

Tenneco Automotive Operating Company, Inc. is the real party in interest, being the assignee of the present Assignment. The Assignment has been recorded with the United States Patent and Trademark Office on Reel 014503, Frame 0036.

### **RELATED APPEALS AND INTERFERENCES**

To the best of Appellant's knowledge, no other appeals or interferences are pending which will directly affect, be directly affected by or have a bearing on the Board's decision in the present pending appeal.

### **STATUS OF THE CLAIMS**

Claims 7-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over DeMolina, et al. in view of Lee or Dressell, Jr., et al. '415.

Claims 12-15 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over DeMolina in view of Dressell, et al. '415 or Schupner '122.

Claims 1-6, 16 and 17 have been cancelled.

The rejections of Claims 7-15 and 18 are the subject of the present appeal.



### **STATUS OF THE AMENDMENTS**

Appellant responded to the July 6, 2005, Paper No. 6 final rejection on September 30, 2005. The claims were not amended in this response.

The Examiner mailed an Advisory Action on October 20, 2005 entering Appellant's September 30, 2005 response but maintaining the rejections.

Appellant filed a Notice of Appeal and Pre-Appeal Brief Request for Review on November 7, 2005 including five pages of arguments.

The Examiner mailed a Notice of Panel Decision from Pre-Appeal Brief Review on December 9, 2005 maintaining the rejections.

## **SUMMARY OF CLAIMED SUBJECT MATTER**

Referring primarily to Figures 2-4, 7 and 8, Claim 7 defines a multi-stage shock absorber having a pressure tube (14) defining a chamber (20, 22). A piston rod assembly (18) is disposed within the chamber. A valve assembly (40) is attached to the piston rod assembly and it divides the chamber into an upper working chamber 20 and a lower working chamber 22. A first (54) and a second (56) flow path between the upper and lower working chambers which extend through the valve assembly.

A sleeve (78) is slidably disposed on the piston rod assembly. The piston rod assembly defines a third separate and distinct flow path (74) between the upper and lower working chambers. The third flow path includes a radial passage (80), an axial passage (82), a chamber (84) and a series of bores (86) arranged in a helical spiral formation.

During outward movement of piston rod assembly (18), sleeve (78) progressively closes the third flow path by sequentially covering the series of bores (86) to provide a progressively higher resistance to the movement of the piston rod assembly. The sleeve (78) is operable to simultaneously cover all of the bores 86 to fully close the third flow path.

Claim 12 is directed to Figure 8 where the series of bores (86) have been replaced by a single hole (186) at the base of a groove (188). The groove (188) extends from the hole (186) in a helical spiral along an outer surface of the piston rod assembly to define the third flow path.

During outward movement of piston rod assembly (18), sleeve (78)

progressively closes the third flow path by progressively covering the groove (188) to provide a progressively higher resistance to the movement of the piston rod assembly because the depth of the groove (188) decreases from the hole (186) to its terminal end. The sleeve is operable to simultaneously cover the hole and the groove to fully close the third flow path.

### **GROUND OF REJECTION TO BE REVIEWED ON APPEAL**

Appellant presents the following issues for review:

1) Appellant respectfully requests the review of the rejection under 35 U.S.C. § 103(a) of Claims 7-11 as being unpatentable over DeMolina, et al. in view of Lee or Dressell, Jr., et al. '415.

2) Appellant also respectfully requests the review of the rejection under 35 U.S.C. § 103(a) of Claims 12-15 and 18 as being unpatentable over DeMolina, et al. in view of Dressell, Jr., et al. '415 or Schupner '122.

## **ARGUMENT**

The Examiner has rejected Claims 7-11 under 35 USC § 103(a) as being unpatentable over de Molina, et al. (USP 6,352,145) in view of Lee (USP 4,742,898) or Dressell, Jr., et al. (USP 4,133,415). Appellant respectfully traverses this rejection.

The Examiner's position is that de Molina, et al. discloses a shock absorber similar to the present invention but de Molina, et al. lacks showing a plurality of holes formed in a helical formation where the sleeve 78 sequentially covers the plurality of holes to progressively close the third flow path with the sleeve being operable to fully close the third flow path by simultaneously covering the plurality of helically formed holes.

The Examiner first goes to Lee (USP 4,742,898) which discloses orifices at 34 where column 4 around line 40 states that the orifices 34 can be in a helical pattern. As clearly illustrated in Figures 1-3 Lee does not have the ability to sequentially cover all of the holes to close a third flow path as is defined by Claim 7. Also, as illustrated in Figure 3, bladder 16 does not cover holes 34 because retainer rails 108 and 110 limit the movement of bladder 16 (column 6, lines 19-32). When rod 74 strokes, piston head 72 moves along cavity 98 with piston ring 81 passing each hole 34 to reduce the number of holes 34 located below piston head 72. As shown in Figure 2, piston ring 81 is positioned such that it cannot travel over the last hole 34 and thus Lee's system reduces the number of active holes by passing over them and not by covering them as defined by the present invention and the system in Lee never has the capability of bypassing all of the

holes and certainly does not have the capability to cover any of the holes as is defined in Claim 7.

The Examiner justifies his position by stating that it is notoriously well known in the art to provide dampers, as shown by de Molina, et al., with progressively covered holes as one well known means to regulate the damping characteristics. The problem here is that Lee does not progressively close holes and Lee lacks the capability of closing any of the holes.

A statement that modifications to the prior art to meet the claimed invention would have been "well within the ordinary skill of the art" at the time the claimed invention was made because the references relied upon teaching that all aspects of the claimed invention were individually known in the art is not sufficient to establish a prima facie case of obviousness without some objective reason to combine the teachings. Ex parte *Lovengood*, 28 USPQ 2d 1300 (Bd. Pat. App. & Inter. 1993). Here Lee does not teach a progressive closing a series of helical holes, it teaches progressively passing holes to reduce the effective number and it never closes any of the holes.

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill

in the art.” *In re Kotzab*, 217 F.3d 1365, 1370, 55 USPQ 2d 1313, 1317 (Fed. Cir. 2000). See also *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ 2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective evidence and making specific factual findings with respect to the motivation to combine references); *In re Fine*, 837 F.2d 1071, 5 USPQ 2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ 2d 1941 (Fed. Cir. 1992).

The mere fact that the references can be combined or modified does not render the resultant combination obvious unless the prior art suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ 2d 1430 (Fed. Cir. 1990).

Here the Examiner has taken Lee which passes holes which can be helical but Lee does not cover the holes and applies this helical pattern of holes to the present invention which sequentially covers the holes until they are fully covered. Clearly the Examiner has resorted to the use of impermissible hindsight in picking and choosing isolated elements from various pieces of prior art and applied these isolated elements to the problems addressed by Appellant’s invention. Thus, the combination of the cited references does not appear to teach or suggest Appellant’s claimed invention, without resorting to the improper use of hindsight in combining references under 35 U.S.C. § 103. This hindsight reconstruction has repeatedly been judicially held to be impermissible both by the CCPA and by the CAFC.

The Examiner also attempts to use Dressell, Jr., et al. (USP 4,133,415) which the Examiner states is relied upon to provide a general teaching of the

idea. Dressell, Jr., et al. discloses a spiral groove or channel that is progressively closed by sleeve 76. This closes radial ports 102. The sleeve 76 moves to progressively close grooves 86-90 and thus ports 102 but it does it by simultaneously closing each of the grooves 86-90 and thus all of the ports 102. The rotation of sleeve 76 does not sequentially close the grooves or the ports, it progressively closes each of them simultaneously.

Thus, Appellant believes Claim 7, as well as dependent Claims 8-11, patentably distinguishes over the art of record. Reversal of the Examiner's rejection and allowance of these claims is respectfully requested.

The Examiner has rejected Claims 12-15 and 18 under 35 USC § 103(a) as being unpatentable over de Molina, et al. in view of Dressell, Jr., et al. or Schupner (USP 4,071,122). Appellant respectfully traverses this rejection.

The Examiner's position is that de Molina, et al. discloses a shock absorber similar to the present invention but de Molina, et al. lacks the showing of the third passageway comprised of a single hole and groove where a depth of the groove decreases from the hole to a terminal end of the groove. The sleeve being able to fully cover the groove.

The Examiner first goes to Dressell, Jr., et al. to provide a general teaching of helical grooves with varying depth with holes which open into them. The Examiner requests us to please see, in particular, Figure 10 of Dressell, Jr., et al. Figure 10 of Dressell, Jr., et al. illustrates a spiral groove 132 which has a plurality of holes 134 extending from the groove. But, as illustrated in Figure 10 and defined in Dressell, Jr., et al. at column 2, lines 65 and 66, "The grooves



[spiral] are of a constant depth." Thus, it is clear that Dressell, Jr., et al. does not disclose, teach or suggest a helical spiral groove having a depth decreasing from the hole to the terminal end as defined by Claim 12. While Figures 6-8 of Dressell, Jr., et al. illustrate grooves 86-90 as having a decreasing depth, the grooves 86-90 are not spiral grooves they are circular grooves as shown in Figures 4-8. Thus, Dressell, Jr., et al. may teach circular grooves of variable depth and it may teach spiral grooves of constant depth but it clearly does not teach spiral grooves of variable depth. In addition, the entire spiral groove 132 of Dressell, Jr., et al. is progressively closed simultaneously by the rotation of cylinder 20 and it is not progressively covered from the hole to the terminal end as is defined by Claim 12.

Schupner discloses a variable depth groove or slot but Schupner does not disclose a hole located at a base of a groove as is defined in Claim 12. Sleeve 11 is rotated to determine the position of slots 70-73 with respect to holes 47-50, but there is no progressive covering of the groove when movement of the piston rod exceeds a specified distance. Holes 47-50 are not located in the grooves, they are on a different component. In addition, the variable depth slot shown in Figures 1-4 is a circumferential slot and it is not a helical groove. Figures 5 and 6 of Schupner disclose helical grooves 70-73 but these helical grooves are uniform in cross-sectional size throughout their length as defined in column 3, lines 35 and 36. In fact, the paragraph in column 3 beginning at line 28 teaches that instead of having a circumferential slot which varies in cross-sectional size (as in Figure 4) the amount of slot exposed to the radial opening is varied. Thus, slots

70-73 are uniform in cross-sectional size throughout their length, however, they are slightly helical. Thus, Schupner teaches circular grooves with a variable depth or helical grooves and a constant depth but not helical grooves with a variable depth.

The discussion above regarding the suggestion and motivation of combining references as well as the discussion above regarding hindsight reconstruction apply to this rejection also.

Thus, Appellant believes Claim 12, as well as dependent Claims 12-15 and 18, patentably distinguish over the art of record. Reversal of the Examiner's rejection and allowance of these claims is respectfully requested.

Respectfully submitted,

Dated: January 9, 2006

By: 

Michael J. Schmidt, 34,007

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MJS/pmg

## APPENDIX A

## **APPENDIX A**

### **PENDING CLAIMS**

1.-6. (cancelled)

7. A two-stage shock absorber comprising:

a pressure tube defining a chamber;

a piston rod assembly disposed within said chamber;

a valve assembly fixably attached to said piston rod assembly and slidably engaging said pressure tube within said chamber, said valve assembly dividing said chamber into an upper and a lower working chamber, said valve assembly providing a first and a second fluid flow path between said upper and lower working chambers completely through said valve assembly, said first and second flow paths of said valve assembly being totally separate from one another; and

a sleeve slidably disposed on said piston rod assembly, said piston rod assembly defining a passage and a plurality of holes through said piston rod assembly, the plurality of holes being arranged in a helical spiral formation to create a third separate and distinct flow path extending between said upper and lower working chambers, said sleeve being operable to progressively close said third flow path by sequentially covering said plurality of holes when movement of said piston rod assembly exceeds a specified distance, said progressive closing of said third flow path providing a progressively higher resistance to the movement of said piston rod assembly, said sleeve being operable to

simultaneously cover all of said plurality of holes to fully close said third flow path.

8. The two stage shock absorber according to Claim 7 wherein said piston rod assembly comprises a piston rod and a piston nut, said plurality of holes extending through said piston nut.

9. The two-stage shock absorber according to Claim 7 wherein said valve assembly comprises a compression valve assembly and a rebound valve assembly.

10. The two stage shock absorber according to Claim 7 wherein said sleeve is frictionally held by said pressure tube.

11. The two stage shock absorber according to Claim 7 wherein said sleeve is operable to progressively close said plurality of holes.

12. A two-stage shock absorber comprising:  
a pressure tube defining a chamber;  
a piston rod assembly disposed within said chamber;  
a valve assembly fixably attached to said piston rod assembly and slidably engaging said pressure tube within said chamber, said valve assembly dividing said chamber into an upper and a lower working chamber, said valve

assembly providing a first and a second fluid flow path between said upper and lower working chambers completely through said valve assembly, said first and second flow paths of said valve assembly being totally separate from one another; and

a sleeve slidably disposed on said piston rod assembly, said piston rod assembly defining a hole located at a base of a groove, said groove extending from said hole in a helical spiral along an outer surface of said piston rod assembly to a terminal end to create a third separate and distinct flow path extending between said upper and lower working chambers, said sleeve being operable to progressively close said third flow path by progressively covering said groove from said hole to said terminal end when movement of said piston rod assembly exceeds a specified distance, said progressive closing of said third flow path providing a progressively higher resistance to the movement of said piston rod assembly, a depth of said groove decreasing from said hole to said terminal end, said sleeve being operable to simultaneously cover said hole and said groove to fully close said third flow path.

13. The two stage shock absorber according to Claim 12 wherein said piston rod assembly comprises a piston rod and a piston nut, said hole and said groove being disposed in said piston nut.

14. The two-stage shock absorber according to Claim 12 wherein said valve assembly comprises a compression valve assembly and a rebound valve

assembly.

15. The two stage shock absorber according to Claim 12 wherein said sleeve is frictionally held by said pressure tube.

16.-17. (cancelled)

18. The two stage shock absorber according to Claim 12 wherein said sleeve is operable to progressively cover said hole and said groove.

## APPENDIX B



**Evidence:** None

## APPENDIX C

**Related Proceedings:** None

## APPENDIX D